

Understanding Delirium

You're with your husband at the hospital following surgery. He appears to be recovering fine. You turn away to speak with the nurse and the next thing you know, your spouse is screaming, accusing the nurse of a conspiracy plot. It's hard to decipher what he's saying. After 50 years of marriage, your partner seems to have transformed into someone you don't recognize. Has he suddenly slipped into dementia or mental illness? It's more likely he's experiencing delirium—an often reversible medical condition marked by a sudden and abrupt change in mental state that can be triggered by severe illness, medication or surgery. It can be a common complication for older adults who are hospitalized or experiencing acute medical problems.



A major red flag for delirium is its abruptness. It comes on suddenly and can include hallucinations. Other signs that may indicate delirium include:

- a fluctuation in alertness and attention
- poor concentration
- incoherent speech
- drowsiness
- disorientation/change in perception
- unorganized thoughts
- a decrease in short-term memory/recall
- shift in sensation
- movement prompted by changes in the nervous system
- sudden emotional shifts (i.e. depression, euphoria, anxiety, apathy, anger)
- “sundowning” - a shift in consciousness that often occurs near the end of the day, leaving a patient restless, agitated and confused

- a state of mind that is fearful, suspicious, or anxious

Delirium is an alarm bell, a symptom of an underlying issue. It's a medical emergency that demands immediate attention to avoid further damage or even death. Delirium can be caused by...

- 1) toxins (i.e. over-medication, reaction to anesthesia, lead, deficiency of thiamin)
- 2) infections (i.e. urinary tract infection, pneumonia, viral infection with high fever)
- 3) metabolic changes (i.e. hyperthyroidism, anoxia, hypothyroidism, hypocalcemia)
- 4) structural problems (i.e. vascular blockage, brain tumor, subdural hematoma)
- 5) hospitalization (lack of sleep, overstimulation, isolation, sensory breakdown due to lack of hearing aid or glasses)

When the root cause behind the delirium is treated, delirium most often disappears. This process could

take hours, a week, or more and mental function may take a little longer than the delirium episode to return to normal. Once a diagnosis is made, treatment should include supportive care (i.e. nutritious meals, remaining hydrated, etc.), tending to behavior issues, and taking measures to avoid any complications.

According to geriatrician, Dr. James Rudolph, M.D., a leading expert on delirium and one of the founders of The American Delirium Society, “Overall, about 25% of hospitalized patients age 65 and older will have or will develop delirium. Of that number, up to 50% of surgical patients, depending upon the surgery, and up to 75% of intensive care unit patients will develop delirium.”

In dollars and cents, the numbers correlated to delirium are astounding. “In 2004 that amounted to an estimated \$8 billion in inpatient costs” said Rudolph.

The major problem that medical professionals face is recognizing delirium in order to find the underlying cause. Another complication is that there are two forms of delirium; hyperactive and hypoactive. Dr. Peter Lichtenberg, geriatric neuropsychologist and director of the Institute of Gerontology at Wayne State University, specializes in brain behavior disorders in older adults. “Hyperactive forms are most typically related to withdrawal. For example, withdrawal from alcohol, narcotics, or post surgery that includes the effects from anesthesia, pain control following surgery and then weaning off pain killers,” he said. “Hypoactive forms are more typically related to infection and over-medication. In older adults, the hypoactive form is the most common and because it is linked to lethargy, withdrawal, and decreased interaction with others, it is not as easy to detect.”

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Yet another hurdle has been that health systems have lacked the necessary protocol to identify delirium. But due to the award-winning work of Aging Brain Center Director Dr. Sharon Inouye, M.D., at the Institute for Aging Research in Boston, patients now have a better shot at prevention. Dr. Inouye designed and tested several methods to recognize and prevent delirium, including the now widely used Confusion Assessment Method (CAM). It's a questionnaire, used by medical staff during the patient intake process, to identify patients who have delirium or who are at risk for developing this debilitating syndrome.

Inouye found that the top causes for delirium are:

- dementia
- a bladder catheter
- taking multiple medications



- malnutrition
- use of physical restraints
- an event caused by medical treatment

Research is ongoing to determine other risk factors. “Our work at Harvard Medical School has shown that patients who develop delirium after heart surgery are more likely to have a decline in function one month afterwards. We repeated this analysis in non-cardiac surgery and found that delirium after surgery results in an increased chance of functional decline three months afterwards. The results showed that the impact of delirium can be felt long after the hospitalization,” said Rudolph.

He mentioned that patients who leave the hospital and still have delirium can accrue an additional \$16,000 - \$64,000 in medical costs over the next year.

Lichtenberg recalled, “While working in geriatric rehabilitation when I came to work at Wayne State Medical School and the Rehabilitation Institute of Michigan in 1991, I noticed lethargy in some of the patients. In one case, the lethargy resolved after a bout with pneumonia cleared up. I realized it was a case of delirium.”

But the treatment of delirium is not always straightforward. Lichtenberg noted, “Clinicians who are not trained to work with older adults may not see how the symptoms fit together. Like most geriatric syndromes (including dementia, depression and frailty), delirium is often missed.”

In an effort to solve this issue, Inouye developed the Hospital Elder Life Program (HELP) to prevent cognitive and functional decline in older adult patients. HELP offers a team approach consisting of an elder life specialist, nurse specialist, geriatrician, and highly trained volunteers; who work together to maintain the independence of older adult patients.

This program is free and currently available for adults age 65 and older at the University of Michigan Hospital in Ann Arbor. Elder Life Specialist Alene Blomquist, MSW has managed daily operations and volunteer training for HELP since its inception in 2002.

Blomquist explained how the program works. “We identify eligible patients and come up with a care plan to keep the older adult patient cognitively and physically strong during their hospital stay,” she said. Team members visit HELP patients twice daily and provide:

- visits designed to provide compassion and help with daily needs or concerns
- stimulating and enjoyable activities and materials to remain alert and oriented

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- assistance with walking and exercises to prevent falls and weakening due to immobility
- help during meals, if necessary, to assure that the patient is well-nourished and hydrated
- relaxation resources such as a hand massage, back rub, or music

The Ann Arbor program has been successful in providing an added layer of support not only for HELP patients, but also for the attending medical staff. HELP was recognized in 2004 by the University of Michigan Volunteer Services’ Distinguished Service Award. It is currently the only HELP program in the state and has been very effective in preventing delirium.

Blomquist admitted, “Fortunately, we haven’t seen a shortage of volunteers.” It’s the demand for HELP that is escalating. “Delirium is quite a topic these days, with a growing acknowledgement of the seriousness of this syndrome,” she said.

To obtain more information about delirium, visit the following websites:

The American Delirium Society at www.americandeliriumsociety.org

HELP at www.hospitalelderlifeprogram.org

European Delirium Association at www.europeandeliriumassociation.com

Mayo Clinic at www.mayoclinic.com/health/delirium/DS01064

Vancouver Island Health Authority’s Delirium at www.viha.ca/mhas/resources/delirium/tools.htm

Vanderbilt University Medical Center www.icudelirium.org

Due to state of the art preventive methods, Ann Arbor’s HELP sees very few cases of delirium. Hopefully, in the future, HELP will become standard practice in all health systems.

“Prevention is so critical,” said Rudolph. “Most patients with delirium will recover. However, some do not. And those at risk are generally people with unhealthy brains.”

There are a number of measures that can be taken to prevent delirium if a loved one is hospitalized. Rudolph’s suggestions include:

- making sure glasses, hearing aids, and false teeth are being used
- stimulating the brain through activities such as reading aloud, playing cards, and engaging in conversation
- decorating the room with family photos and have both a clock and a calendar in view
- getting patients up and moving as soon as possible
- avoiding cognitive active medications such as sleeping pills. (These are very toxic to the brain.)
- creating an environment conducive to rest and then insuring the patient sleeps
- following your loved one’s nutrition and hydration status closely
- avoiding complications from hospitalization (i.e. remove bladder catheters; prevent secondary infection; treat pain and minimize relocating to different rooms)

If your loved one shows signs of delirium while they are in the hospital, Rudolph recommends that you: a) advocate for your loved one by addressing these acute mental or physical changes with the attending physician, who may not realize that this is a shift in your loved one’s condition; b) become a part of the care team. Family members play a critical role to help the patient re-orient to the current situation and accept care. With up to 30 different hospital personnel entering a patient’s room each day, family members can serve as that familiar, trustworthy connection. This is particularly important during times when a patient develops increased confusion or agitation; c) become a force for calm in what can be an uncertain and scary environment. Agitating a patient with delirium can result in the use of drugs to control the syndrome and this can lengthen the course of the delirium.